

ON THE BRITISH SPECIES OF *TRUNCATELLINA*.

By A. S. KENNARD, F.G.S., and B. B. WOODWARD, F.L.S.

Read 11th May, 1923.

DOUBT having been expressed in some quarters as to the validity of Dr. Pilsbry's conclusion (*Man. Conch.*, ser. II, vol. xxvi, pp. 65 and 77) that two species of *Truncatellina* are present in Britain, and neither of them identifiable with the inadequately described *Pupa minutissima* of Hartmann, it became necessary for us in furtherance of our special study of the Post-Pliocene Non-Marine Mollusca to investigate the matter and, in the event of there being two species, to ascertain what microscopic characters there might be which would enable anyone to identify incomplete examples such as only too frequently are the sole available material when dealing with fossil occurrences.

For valuable help in our investigations by loan of specimens we have to thank Dr. A. E. Boycott, J. E. Cooper, A. Hartley, J. W. Jackson (Manchester Museum), J. R. B. Masefield, C. Oldham, A. E. Salisbury, C. D. Sherborn, J. R. le B. Tomlin, and W. J. Wintle.

Our researches have been, we consider, entirely successful, and the following tabular statement will show that there are two species distinguishable from each other by well-marked and fundamental characters, viz. *T. cylindrica*, Férussac, and *T. britannica*, Pilsbry.

## BRITANNICA.

## CYLINDRICA.

<i>Shell.</i>	Minute dome-topped cylinder. The outline of the cylindrical portion showing practically parallel sides.	The same, but the outline of the cylindrical portion is very slightly arcuate, like the shaft of a well-formed column.
	Long. 1.6 to 1.85; lat. 0.8 to (exceptionally) 0.9 mm.	Long. 1.8 to 2; lat. 0.9 mm.
<i>Whorls.</i>	5½ (exceptionally 6). Nepionic shell smooth, 1¼ whorls, sharply defined from the succeeding whorls.	5¾ to 6. Nepionic shell smooth, 1½ to 2 whorls, not always sharply defined from the succeeding whorls.
	Last three whorls flattened convex, with well-defined sutures.	Last three whorls convex, with even more strongly marked sutures.
	Strongly ribbed: the riblets 2 to 0.1 mm., crossing the whorl at a high angle.	Less strongly ribbed: the riblets 3 to 0.1 mm., crossing the whorl obliquely at a somewhat lower angle.
<i>Aperture.</i>	Ovate, tending towards square-rose. Peristome whitish, somewhat thickened and expanded, especially in very old individuals.	Ovate, tending slightly towards triangular. Peristome very similar, but the margin of the outer lip is inclined towards the columella as it descends

	BRITANNICA.	CYLINDRICA.
<i>Oral armature.</i>	Margin of the outer lip in line with the outline of the cylindrical portion of the shell.	and is not in a line with the outline of the cylindrical portion of the shell.
	Characteristically three denticles.	None.
	Columellar lamella strong, deep-seated, constantly present in mature specimens, and visible in oblique view.	
	Parietal lamella, one short, obscure tubercle, visible in oblique view, but not always present.	
	Palatal fold an immersed, rounded or oblong tubercle, visible in front view, but not always present.	

The denticles, or rather tubercles, that when developed form a prominent feature in adult *T. britannica*, seemingly only develop late in life. The columellar tubercle, which is the most conspicuous as a rule, appears to form first, when the shell has come to full growth. The palatal tubercle develops next, and later the parietal (though we have seen a specimen with parietal but no palatal tubercle) completing the typical three in the old age of the snail.

Thus in a considerable series, some forty or more, collected in April or May at Portland by Mr. J. E. Cooper, whilst the columellar tubercle was present in the full-grown examples, only five of the number showed the palatal one, and none the parietal.

On the other hand, out of thirteen collected at Portland by Mr. A. E. Salisbury in August, seven showed the palatal tubercle, none the parietal. Of two batches, totalling twenty-seven, from the same locality (time of collecting not ascertained) in Mr. Tomlin's collection, leaving out of account three immature and one decomposing specimen, all showed the columellar tubercle, ten the palatal, and three the parietal.

In the Swanage specimens collected by Mr. Tomlin in May and June of two succeeding years, the columellar tubercle is placed much further back than in those from Portland and cannot be detected by a simple pocket lens; their presence is, however, easily established under the microscope. Out of thirty-seven examples (including those already presented to us) six were immature, all the rest showed the columellar tubercle, while only four exhibited the palatal and but two the parietal.

Of three large specimens from Lyme Regis, shown us by Mr. Hartley, only one, the smallest, showed the columellar denticle, placed very far back, and none of them the other denticles.

Individuals exhibiting all three denticles would, therefore, seem to be scarce.

The above facts may have given rise to the belief we have heard expressed that intermediate forms linking the two species existed. We have found none such, and where the shell is immature consider the size of the nepionic shell and the number of riblets to 0.1 mm. can be relied upon for purposes of discrimination.

Whether or no the toothed form be, as Pilsbry considers, a variety or subspecies of the *Pupa strobili* of Gredler (= *P. rivierana*, Benson) or a distinct species we have not as yet had the opportunity of determining. Since, however, as Pilsbry points out, in *T. strobili* the striæ are more spaced, the last whorl flattened laterally toward the base, and the palatal fold and parietal lamella are longer and stronger, we consider it best to speak of the British shell as *T. britannica* and so avoid possible subsequent confusion in the matter of tracing distribution. This name cannot be held to clash with the *Pupa britannica* (= *Azeca goodalli*) of Kenyon (*Mag. Nat. Hist. Lond.*, i, 1829, p. 426).

By way of conclusion it may not be without interest to add the following notes concerning the past history of British *Truncatellinæ*. The first discovery of members of this genus in the British Islands appears to have been made in 1813 by Dr. Chalmers, of Kirkealdy, who found them at Balmerino (misspelled by Gray and Brown as Balmenna), Fifeshire, and sent them to Dr. Fleming. The latter in 1828 (*Brit. Anim.*, p. 269) recorded them as a form of *Pupa obtusa*, Drap. Forbes, however, having seen cotypes, stated that they were referable to the species which Gray placed as *Vertigo cylindrica*, Fér. (Gray's ed. of *Turton's Manual*, 1840, p. 201). A single example was next taken by Jeffreys on Durdham Downs, near Bristol, and placed in his new genus *Alæa* under Férussac's trivial name (*Trans. Linn. Soc.*, xvi, 1830, p. 359). Rhind in 1836 (*Excur. illust. Geol. and Nat. Hist. envir. Edinb.*, 2nd ed., p. 141) recorded *Pupa cylindrica* from Salisbury Crags, and this T. Scott (*Scott. Nat.*, 1891, p. 52) gave very good reasons for believing referred to *Truncatellina*, while he himself possesses specimens from that locality. Gray in 1840 (loc. cit.) had already cited *Pupa minutissima*, Hartmann, as a synonym, and this specific name adopted by Forbes and Hanley (*Brit. Moll.*, iv, p. 104, 1852) with generic changes has been generally employed for what has hitherto been considered the single British species. Lowe in 1852 (*Ann. & Mag. Nat. Hist.*, ser. II, vol. ix, p. 275) established *Truncatellina* as a section of *Pupa* for *P. linearis*, Lowe, but subsequently in 1855 (*Proc. Zool. Soc. Lond.*, 1854-55), p. 207) named *P. minutissima*, Hartmann, as the type; a second designation which, of course, cannot stand. The *Truncatellina* cited by Scudder in his *Nomenclator Zoologicus* as of Orbigny proves to be a misprint for *Truncatulina*, the well-known genus of Foraminifera, and does not therefore invalidate Lowe's name.

DISTRIBUTION

*as far as at present known to us.*

*TRUNCATELLINA BRITANNICA.*

RECENT.

DEVON :—

Branscombe, A. E. B.

DORSET :—

Lyme Regis, A. H.

Portland, J. E. C., A. E. S., J. R. le B. T., Manch. Mus.,

W. J. W.

Swanage, J. E. C., J. R. le B. T.

HANTS :—

Isle of Wight, A. S. K.

YORKS :—

Went Vale, R. M. Christy.

HOLOCENE.

KENT :—

Cuxton, A. S. K.

NORFOLK :—

Grimes Graves, A. S. K.

PLEISTOCENE.

CAMBRIDGE :—

Barnwell, A. S. K.

Barrington, A. S. K.

KENT :—

Ightham Fissure, Brit. Mus. G. 24814.

*TRUNCATELLINA CYLINDRICA.*

RECENT.

HANTS :—

? Ventnor, J. R. B. M. (one badly preserved specimen).

LINCOLNSHIRE :—

Skegness, Manch. Mus., J. R. B. M.

YORKS :—

York, W. J. W.

EDINBURGH :—

Arthur's Seat, J. E. C.

HOLOCENE.

CHESHIRE :—

Meols, Manch. Mus.

KENT :—

Greenhithe, A. S. K.

Ightham Fissure, Brit. Mus. G. 24814.

FIFESHIRE :—

Elie, A. S. K.

## PLEISTOCENE.

LONDON :—

Admiralty Section, Westminster, A. S. K.

CAMBRIDGE :—

Barrington, A. S. K., and Brit. Mus. G. 5267.

ESSEX :—

Clacton, A. S. K.

## NOTE ON THE NOMENCLATURE AND SYSTEMATIC ARRANGEMENT OF THE CLAUSILIIDÆ.

By A. S. KENNARD, F.G.S., and B. B. WOODWARD, F.L.S.

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WHEN reviewing the British representatives of Clausiliidæ from the nomenclatorial point of view, we were surprised to find how lax as regards their nomenclature all the best-known authorities have been. Boettger, Vest, Möllendorff, and now Wagner, all when put to the test prove unreliable guides. Even the type of the genus has been lost sight of, and needless to say this, now that the genus is split up, affects the question in regard to the nomenclature of the resulting genera.

As a matter of fact, Children, in 1823, was the first to select a type, but his choice of *Cl. torticollis*, Oliv., the first of the species cited by Lamarck in his *Hist. Anim. s. Vert.*, is inadmissible because it was not one of the species comprised in the genus when founded by Draparnaud in 1805. Turton in 1831 (*Manual*, p. 6), who comes next, gave as type the *Turbo bidens* of Montagu, which is synonymous with the *Cl. rugosa* of Draparnaud, and Turton's selection must, therefore, be accepted.

When Gray in 1847 (*Proc. Zool. Soc.*, 1847, p. 177) also took "*Turbo bidens*" for the type of *Clausilia*, Drap., he evidently meant Montagu's species and not Linné's, unless since he gave his *Marpessa* as a synonym he was confusing at the time Müller's *Helix bidens* = *Cl. bidens*, Drap. = *Turbo laminatus*, Montagu, a proceeding which would have been quite characteristic. It is curious that though in both his editions of Turton's *Manual* Gray adopted *Marpessa* as the subgenus for *Cl. bidens* = *laminata* he never alluded to his 1821 paper.

It may not be out of place here to recapitulate the history of the misattribution to Pulteney, 1799, of the name *nigricans*. The unanimity with which successive compilers of synonymy copy each from his predecessor without ever referring to the original work is remarkable and productive of many quite unnecessary errors. As we pointed out a short time since (*Proc. Malac. Soc.*, xiv, Sept. 1820, p. 85) Ström's *Turbo bidentatus* (*Det Trondh. Selsk. Skrift.*, iii, 1765,